

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference M03B322PCT/ASB	FOR FURTHER ACTION see Form PCT/ISA/220 as well as, where applicable, Item 5 below.	
International application No. PCT/GB2005/000781	International filing date (day/month/year) 01/03/2005	(Earliest) Priority Date (day/month/year) 19/03/2004
Applicant THE BOC GROUP PLC		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 04 sheets.



It is also accompanied by a copy of each prior art document cited in this report.

1. **Basis of the report**

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.



The international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).



With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☐

Certain claims were found unsearchable (See Box II).

3. ☐

Unity of invention is lacking (see Box III).

4. With regard to the **title**,



the text is approved as submitted by the applicant.



the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,



the text is approved as submitted by the applicant.



the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the **drawings**,

- a. the figure of the **drawings** to be published with the abstract is Figure No. 3



as suggested by the applicant.



as selected by this Authority, because the applicant failed to suggest a figure.



as selected by this Authority, because this figure better characterizes the invention.



none of the figures is to be published with the abstract.

Box No. IV Text of the abstract (Continuation of item 5 of the first sheet)

A conveyor system (10) comprises a star wheel (32) for receiving articles (14) from a first conveyor (12) and dispatching the articles to a second conveyor. The star wheel comprises first and second segments (44,46) each having a perimeter adapted to receive articles to be conveyed. A first shaft (52) rotates the first segment (44) about an axis, and a second shaft (60) rotates the second segment (46) about the axis. In one embodiment, a torsion spring (64) resiliently connects the shafts (52,60) together. The first shaft (52) is connected to a first drive for rotating the first and second shafts (52,60) together about the axis. The second shaft (60) is connected to a clutch (72) arrangement for selectively connecting the second shaft (60) to a second drive for rotating the second shaft about the axis at a different speed from the first shaft, for example, in the event that the first drive is switched off. This enables the second segment (46) to continue to rotate during deceleration of the first segment (44) and thereby to continue to convey articles to the second conveyor. The clutch arrangement (72) disconnects the second segment (46) from the second drive before it clashes with the first segment (44) or any articles (14) conveyed thereby, the torsion spring (64) automatically returning the second segment (46) to a predetermined position relative to the first segment (44) for subsequent rotation with the first segment when the first drive is switched on again.

INTERNATIONAL SEARCH REPORT

International Application No

PCT/GB2005/000781

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 B65G47/84 B65G29/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 B65G

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6 112 880 A (FLIX ET AL) 5 September 2000 (2000-09-05)	1, 11, 14, 15, 21-23
Y	column 2, line 33 - column 3, line 60	24, 26-28
A	figures 1-3	17, 20
Y	PATENT ABSTRACTS OF JAPAN vol. 011, no. 048 (M-561), 13 February 1987 (1987-02-13) -& JP 61 211220 A (MITSUBISHI HEAVY IND LTD), 19 September 1986 (1986-09-19) abstract; figure 11	24, 26-28
X	US 4 469 217 A (MEYER ET AL) 4 September 1984 (1984-09-04) column 2, line 13 - column 3, line 39 figures 1-4	1



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *8* document member of the same patent family

Date of the actual completion of the international search

18 May 2005

Date of mailing of the international search report

31/05/2005

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/GB2005/000781

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 6112880	A	05-09-2000	FR 2759671 A1	21-08-1998
			AT 197700 T	15-12-2000
			CA 2207829 A1	14-08-1998
			DE 69800402 D1	28-12-2000
			DE 69800402 T2	21-06-2001
			DK 860385 T3	26-02-2001
			EP 0860385 A1	26-08-1998
			ES 2154075 T3	16-03-2001
			PT 860385 T	31-05-2001
JP 61211220	A	19-09-1986	NONE	
US 4469217	A	04-09-1984	DE 2605775 A1	25-08-1977
			JP 1322521 C	11-06-1986
			JP 52099572 A	20-08-1977
			JP 60048422 B	26-10-1985